



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/521,135

01/12/2005

Karst Vaartjes

NL 020674

6812

24737

7590

06/09/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SANEI, HANA ASMAT

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/521,135

Applicant(s)

VAARTJES ET AL.

Examiner

Hana A. Sanei

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on 4/19/06, has been entered and acknowledged by the Examiner.

Claims 1-16 are pending in the instant application

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. In the present instance, Claim 3 recites the broad recitation the molar ratio of NaI/Prl₃ lying between 2.3 and 10.3, and the claim also recites the molar ratio is more preferably between 3 and 5.7, which is the narrower statement of the range/limitation.

Claims 4-8 and 14-16 are rejected over the same reasoning applied to the 112, 2nd Paragraph rejection of Claim 3 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricx et al (WO 200067294 A1) in view of Bruninx-Poesen et al (US 4422011).

With respect to Claim 1, Hendricx teaches a metal halide lamp (Page 1, lines 1-2) comprising a substantially cylindrical discharge vessel (see at least Figure 2) having an internal diameter $D_i < 2.0$ mm (Page 2, lines 3-5) and filled with an ionizable filling (Page 1, lines 1-5), wherein two electrodes (4,5) are present at a mutual distance EA (refer to at least Figure 2), wherein the filling comprises an inert gas (Xe, Page 1, lines 24-26) having a pressure at room temperature between 5 and 25 bar (Page 4, lines 13-19).

Hendricx lacks an ionizable salt that is selected from the group comprising PrI_3 , NdI_3 , LuI_3 . In the same field of endeavor, Bruninx-Poesen teaches an ionizable salt that is selected from the group comprising PrI_3 , NdI_3 , LuI_3 (Col.4, lines 3-7) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified

Art Unit: 2879

ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 2, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks an ionizable salt further comprising NaI, and wherein the molar ratio $\text{NaI}/(\text{PrI.sub.3} + \text{NdI.sub.3} + \text{LuI.sub.3})$ lies between 1.0 and 10.3. In the same field of endeavor, Bruninx-Poesen teaches an ionizable salt further comprising NaI, and wherein the molar ratio $\text{NaI}/(\text{PrI.sub.3} + \text{NdI.sub.3} + \text{LuI.sub.3})$ lies between 1.0 and 10.3 (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 3, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks a molar ratio $\text{NaI}/\text{PrI.sub.3}$ lies between 2.3 and 10.3. In the same field of endeavor, Bruninx-Poesen teaches a molar ratio $\text{NaI}/\text{PrI.sub.3}$ lies between 2.3 and 10.3 (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 4, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks an amount of PrI.sub.3 in the discharge vessel is between 10 and $335.\mu\text{mol/cm.sup.3}$. In the same field of endeavor, Bruninx-Poesen teaches an amount of PrI.sub.3 in the discharge vessel is between 10 and $335.\mu\text{mol/cm.sup.3}$ (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 5, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks a molar ratio NaI/NdI.sub.3 lies between 3.0 and 6.7. In the same field of endeavor, Bruninx-Poesen teaches a molar ratio NaI/NdI.sub.3 lies between 3.0 and 6.7 (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 9, Hendricx teaches that $D_i < 1.5$ mm (Page 2, lines 15-16).

With respect to Claim 10, Hendricx teaches that EA lies between 3 mm and 7 mm (Page 5, line 17).

With respect to Claim 11, Hendricx teaches that the discharge vessel has a ceramic wall (Page 1, lines 1-2).

With respect to Claim 12, Hendricx teaches that the discharge vessel is surrounded by a gas-filled outer bulb (Page 5, lines 22-23).

With respect to Claim 13, Hendricx teaches that the lamp power lies between 20 W and 40 W (Page 5, lines 11-13).

Response to Arguments

Applicant's argument filed on 4/19/06 have been fully considered but they are not persuasive.

A. In response to Applicant's arguments that the combination of Hendricx and Bruninx-Poesen is improper, the Examiner respectfully disagrees.

Examiner agrees with applicant that Hendricx does not teach or suggest the use of other iodide salts. It is for this reason that the Examiner introduces Bruninx-Poesen to teach the deficiencies present in Hendricx. Hence, the introduction, in the same field of endeavor of **discharge lamps**, Bruninx-Poesen's novel teaching of an ionizable salt that is selected from the group comprising PrI_3 , NdI_3 , LuI_3 (Col.4, lines 3-7) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

Furthermore, Examiner refers to Page 4, lines 13-14 of Hendricx drawn to a discharge vessel wherein mercury is added to the ionizable filling of the discharge vessel with a high filling pressure and Col. 1, lines 5-6 of Bruninx-Poesen drawn to a high pressure mercury vapour discharge lamp. Both inventions are in the same field of endeavor of discharge lamps. Applicant's differentiation lies on the basis of failing to establish a criterion that satisfies the two references to be in the same field of endeavor, by Bruninx-Poesen having a much large discharge vessel than Hendricx. However, this criteria is insufficient because Examiner does not rely on the internal diameter of 15.5 mm, but instead relies on an extrapolation when using the input internal diameter, < 2.0 mm, as claimed in the pending application and as taught by Hendricx to obtain a numerical yield in analysis. Accordingly, pressure modulation inherently accommodates the discharge vessel size variation. For the reasons stated above, the combination of Hendricx and Bruninx-Poesen is proper.

B. In response to Applicant's arguments that Bruninx-Poesen does not disclose the claimed ranges of molar ratio and amounts, the Examiner respectfully disagrees.

Examiner has provided a supplemental sheet providing the data tabulation and calculations resulting from Bruninx-Poesen's invention. As tabulated from the extrapolation of **two** sets of disclosed data with Data Set 1 based on an internal diameter of 11.5 mm and Data Set 2 based on an internal diameter of 15.5 mm, Examiner was able to determine the output density if an input internal diameter of < 2.0 mm is entered. By taking the linear trend line of the relationship between the two Data Sets, Examiner allowed the "internal diameter" to be the known varying parameter and

Art Unit: 2879

the density to be the unknown parameter to be determined, thereby yielding an *output* density due to an *input* internal diameter. Hence, when applicant is referring to Bruninx-Poesen teaching a much lower amount of rare earth metal halide, i.e., from 1 to 25 $\mu\text{mol}/\text{cm}^3$, Examiner reminds applicant that the 1 to 25 $\mu\text{mol}/\text{cm}^3$ is not for an internal diameter of < 2.0 mm. The amounts for an internal diameter of < 2.0 mm are provided in the supplemental sheet. Accordingly, Bruninx-Poesen indeed discloses the claimed ranges of molar ratio and amounts, which falls within applicant's claimed invention.

For the reasons stated above, the rejection of the claims is deemed proper.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571) 272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hana A. Sanei
Examiner



Joseph Williams
Primary Examiner